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I have specimens of *Centaurea Cyanus*, L., which I obtained from a garden a few years since, and which exhibit this same sort of proliferation—the elongated axis bearing a second capitulum very slightly smaller than the primary one. At the same meeting of the Club, Dr. Thurber, after remarking that double flowers are rare in a state of nature, announced that he had recently received from Connecticut, specimens of *Nesaea verticillata*, H. B. K., in which all of the flowers were double; and another member reported that he had observed, during the preceding spring, the same thing in a specimen of *Saxifraga Virginensis*, Mchx. In the note before alluded to, Prof. Harvey states that he had seen a plant of some species of *Allium* in which a stamen, in a flower otherwise normal, was replaced by a bulblet; and in another flower, one of the stamens was replaced by a perfect flower. He says further: “An ear of corn, which has grown wrong side out, is in my possession. The ear has the form of an inverted truncated cone, bearing the kernels on the walls of the hollow. The cob has a smooth exposed surface, and a texture somewhat more compact than that of the cob of normal ears.” This is perhaps a case of eversion of the axis, the termination of the latter becoming hollow through a disproportionate growth of the outer as contrasted with the central parts of the rhachis, and the female flowers and the seeds being borne on the walls of the tube thus formed.

W. R. G.

§ 52. **Publications.**—1. *Preliminary List of the Plants growing without cultivation in Alabama*, from the collections made by Eugene A. Smith, Tuscaloosa, and Charles Mohr, Mobile, compiled by Charles Mohr; 629 genera, ending with *Azolla Caroliniana*, Willd.; containing about 1,600 species and varieties, of which something like half are strangers to our region. We notice that Mr. Smith is the authority for *Asplenium ebenoides*; it would be interesting to know whether he found it in the locality discovered by Miss Tutweiler, or has a new station for this disputed species. This list is preliminary to a complete catalogue of the Flora of Alabama to be published hereafter in one of the Reports of the Geological Survey of the State. Those who have authentic specimens of plants not in the list are invited to communicate them to Messrs. Smith and Mohr.

2. *Forest Trees of North America.*—It is proposed to join to the Report on the Forest Wealth of the United States now in preparation for the Tenth Census, a Catalogue of the Forest Trees of North America, with special reference to their geographical distribution and economic properties and uses. To facilitate the collection and preservation of such information Prof. Chas. S. Sargent, Brookline, Mass., issues this preliminary catalogue, with blank pages for field notes and corrections. Any information which will serve to make the final publication more exact and complete will be gratefully received and duly acknowledged. Almost every botanist has it in his power to contribute something. Information on the following points is particularly needed.

1. The extreme geographical range of any species.
2. The region and elevation where any species is principally multiplied and reaches its greatest perfection.

3. The geological formation most favorable to the multiplication and development of any species.
4. Dimensions of remarkably developed specimens of any species.
5. The common or local name of any species in addition to those already given.
6. The purposes, however unimportant, for which the wood of any species is employed.
7. Products of any species other than wood, such as tannin, charcoal, dyes, potash, edible fruit, forage, etc.

3. *Catalogue of Trees and Shrubs, native and introduced, in the Horticultural Gardens adjacent to Horticultural Hall in Fairmount Park, Philadelphia.*—The purpose of this catalogue seems to be in part to furnish the visitors to the Park with some means of determining the names of the trees and shrubs which attract their observation. In consequence the arrangement is not strictly scientific, and the names are frequently those popular with gardeners in preference to the less known botanical denominations. The need of some guide to the name and character of the plants cultivated in places of public resort is obvious, if any educational purpose is to be served by such collections. But the plants should be conspicuously labelled, for the ordinary visitor has but slender opportunity to determine the botanical position of a tree or shrub whose acquaintance he desires to make. The CLUB made some effort to have this labelling done for Central Park, but without pushing the matter through. This catalogue will no doubt prove a great boon to those of the Philadelphia public who interest themselves in the vegetation of their noble park.

4. *The Bartram Oak*, by Isaac C. Martindale, read at the annual meeting of the West New Jersey Surveyors' Association, at Camden, 1st month 6th, 1880. In this interesting monograph of 24 pages Mr. Martindale has collected all the references to this much discussed oak. The typical specimen described by Michaux, found by him in a field belonging to Mr. Bartram, has long since been destroyed. The trees on the Bartram place which have been accredited as seedlings of the original, and have probably on this account contributed much to the doubts about its being a true species, are here supposed to be seedlings of *Quercus Phellos* and not of the original tree. Other specimens have been found growing wild up and down the Delaware, and, it is believed, in North Carolina and Texas. Mr. Martindale, upon a review of all the evidence and a personal knowledge of a number of the trees, is strongly of the opinion that *Quercus heterophylla*, Mchx., is a distinct species.

5. *Catalogue of North American Musci*, arranged by Eugene A. Rau and A. B. Hervey, A.M. This catalogue is designed to be a convenient check and exchange list and a basis for arrangement of genera, etc., in herbaria. The classification is mainly that adopted by Prof. Schimper in his Synopsis of European Mosses. All the authentic species and varieties reported from Mexico to the Arctic regions have been included, and their habitats given with as wide a range as the examination of references and several good herbaria would permit. The compilers acknowledge particular indebtedness to C. H. Peck, C. F. Austin and Chas. Mohr. It may

be obtained of Mr. Rau, Bethlehem, Pa., or Mr. Hervey, Taunton, Mass.

§ 53. **Botanical News**—*Annual growth of Trees*.—To the Journal of the Royal Society of New South Wales the Rev. G. E. Tenison-Woods contributes some interesting data in regard to the annual growth of trees. He states that a blue gum tree (*Eucalyptus globulus*), known to have been planted eighteen years previously, when cut down was found to have thirty-six concentric rings, *i. e.*, two for each year. As this tree, as well as *E. obliqua* and others, sheds its bark twice every year, he concludes that the sap rises twice a year in these trees.

Sizes of Leaves and Colors of Flowers.—According to the Gardeners' Chronicle, M. Ch. Flahault, in the *Annales des Sciences Naturelles*, brings forward additional observations to support his view that, under equal conditions, the leaves of plants of the same species are larger in proportion as we go northwards; these relatively large dimensions being due to the duration of light of relatively feeble intensity. In cases where the chlorophyll is formed in the absence of light it must be formed at the expense of the materials stored up in the tissues. The importance of these reservoirs of nutriment is still greater in the case of flowers. Thus, in the case of hyacinths, both blue and red, M. Flahault found no difference in the color of the flowers grown in the light or in the dark, the color being manufactured from the stores of materials in the bulbs.

Plant Hairs.—At a recent meeting of the Société Botanique de France, M. Poisson read a paper on "The Adaptive Character of Plant Hairs," and stated that in most climbing plants, as Darwin had shown with regard to the hop, *Galium aparine* and *Rubus australis*, the ridges alone of the stem are furnished with stiff hairs whose tips are bent downwards, while, in the intervals between the ridges, on the upper surface of the leaves, and on the inflorescence, etc., the hairs have a forward or horizontal direction. That these hairs are adapted to enable the plant to climb, is, he considers, evident from the fact that in the dwarf varieties of the haricot beans, which do not climb, these hairs have not a downward direction, and that in the *Loasaceae* and other families, it is the species which climb that alone present this form of hair. Of course, there are exceptions, such as *Dioscorea*, in which the leaves are glabrous, and the stem hairs not bent downward. M. Poisson proposes to turn to account the fact that, in the majority of cases, climbing or twining plants have recurved hairs, by using it as a means of judging from incomplete herbarium specimens whether the specimen is a climbing plant or not.

The April and May numbers of Trimen's *Journal of Botany* contain mostly continued articles; the new papers are, in the April issue, "New Zealand Plants," by Dr. Berggren, and in the May, an article on "Some Dorset Plant-Station," by the Rev. W. Moyle Rogers.

The *Botanical Gazette* for May contains notes on—"New Species of Potamogeton," by Thos. Morong; "Notulae Exiguæ," by Dr.